**VIN Breakdown by Position (Jun 2008 onwards to Jun 2010)**

Pos 1 - Country of Origin
- 5 - USA
- 2 - Canada

Pos 2 & 3 - Manufacture ID
- FY - New Flyer Industries

Pos 4 - Vehicle Propulsion Type
- C - Compressed Natural Gas
- D - Diesel
- E - Electric Trolley
- F - Fuel Cell
- G - Compressed Natural Gas/Electric Hybrid
- H - Diesel/Electric Hybrid
- L - Liquid Natural Gas
- M - Methanol
- U - Gasoline/Electric Hybrid

Pos 5 - Coach Series
- 3 - Invero
- 4 - Low Floor
- 5 - Low Floor Restyled
- 6 - High Floor
- 7 - Low Floor Advanced
- 8 - Xcelsior

Pos 6 - Body Length
- V - 30
- K - 35
- F - 40
- Y - 60

Pos 7 - Propulsion System
- A - Cummins QSB
- B – L Gas Plus CNG
- E - Reserved
- J - Electric
- K - Detroit Diesel Series 50, V Drive (250/275HP)
- L - Detroit Diesel Series 50, T Drive (250/275 HP) or Detroit Diesel Series 50 Gas
- M - Detroit Diesel Series 50, T Drive (315/320/330 HP)
- P - Cummins C8.3, T drive 250/280 hp Gas
- R - Hybrid Cummins ISB
- S - Cummins ISM 280/330 hp
- U - Cummins ISL (330HP)
- V - Cummins ISL (250/280 HP)
- W - CAT C9-330
- X - Fuel Cell
- Y - Ford V10 Triton
- Z – John Deere CNG

Pos 8 - Brake System
- 0 - Air Without Separate Spring Brake Release (w/o Emergency Release Air Tank)
- 1 - Air With Separate Spring Brake Release (with Emergency Release Air Tank)

Pos 9 - Check Digit

Pos 10 - Model Year

| | | | |
|---|---|---|---|
| B - 1981 | M - 1991 | 1 - 2001 | B - 2011 |
| C - 1982 | N - 1992 | 2 - 2002 | C - 2012 |
| D - 1983 | P - 1993 | 3 - 2003 | D - 2013 |
| E - 1984 | R - 1994 | 4 - 2004 | E - 2014 |
| F - 1985 | S - 1995 | 5 - 2005 | F - 2015 |
| G - 1986 | T - 1996 | 6 - 2006 | G - 2016 |
| H - 1987 | V - 1997 | 7 - 2007 | H - 2017 |
| J - 1988 | W - 1998 | 8 - 2008 | J - 2018 |
| K - 1989 | X - 1999 | 9 - 2009 | K - 2019 |
| L - 1990 | Y - 2000 | A - 2010 | L - 2020 |

Pos 11 - Plant of Manufacture (Final Assembly)

A - Winnipeg, MB Canada – in use till June 2008 then options D or E
B - St. Cloud, MN USA
C - Crookston, MN USA
D - Winnipeg, MB Canada (NPD 45 Beghin Rd.)
E - Winnipeg, MB Canada (630-79 Kernaghan Ave.)

Pos 12 through 17 - Build Sequence (Unit Number)

**From:** Kerry Legg [mailto:Kerry_Legg@newflyer.com]
**Sent:** Wednesday, August 19, 2015 1:01 PM
**To:** Frenchik, Michael (NHTSA); Sachs, Coleman (NHTSA)
**Cc:** Chow, Jeanette (NHTSA); Zhao, Lixin (NHTSA); Yanduru, Lavanya CTR (NHTSA)
**Subject:** RE: New Flyer Buses 565 Submittals (Missing)

Michael,
As discussed last week, here is a revised VIN methodology in excel format for New Flyer, NABI, Optima, Ikarus and Bluebird.

Please note the new submission has removed reference to historical information on New Flyer model buses, and only lists those items which are currently active for production today. For historical information on VIN breakdowns for all buses manufactured by New Flyer prior to 2011, the document "VIN Breakdown By Position – Prior to 2011.pdf" must be referred to.

The spreadsheet tab's for NABI, Ikarus, Optima and BlueBird are all historical, and are based on what was provided to New Flyer by those manufactures.

You will note that the VIN methodology for the NABI model buses *does not* match the requirement criteria specified in the 49CFR 565 for VIN positions 4, 5, 6, 7 and 8. As a result, an additional listing of NABI VIN's is provided in a searchable format which outlines the model, and engine type information for each bus. Alternately, a simplified search for a specific bus VIN can be done by using the Model Year (10) and Sequence Build Number (15-16-17) (see highlighted column on the spreadsheet). It is those two features of the individual NABI VIN's which prevented any duplication during the time these buses were in production.

It was not until 2011 that New Flyer decided to apply "active" and "inactive " status conditions to the VIN position characters. Many of the options under propulsion systems (4), models (5), and engine (7) which still show in the 2011 VIN breakdown, had not been commercially available for many years.

Regarding your questions below which referred to the historical VIN information:

- For historical engine types (position 7) indicating engine which can operate on either diesel or natural gas, we refer to Propulsion System (position 4) which would indicate if the bus is diesel or CNG fueled. For the current listing, we have expanded the description for these engines to show fuel type, displacement and power ratings as requested.
- "Position 7 Type R Hybrid" is a historical reference for vehicles manufactured prior to 2004. During that time, there were many variants of fledgling hybrid technologies. Type R would have been only used for prototype and test buses. If a model when to market, then the engine type coupled to the hybrid system would have been identified.
- Engine type D (Cummins V-Drive) has been inactive for about 15 years. New Flyer Industries has not installed this engine type, and it is likely that a V-Drive has not been installed on a "Flyer" bus since the late 1980's. to my knowledge it has been "inactive" since then and was only active briefly in our VIN listings until the late 1990's because it was an available option under the previous company ownership. I have no information about the HP rating or displacement on that engine.

I do not have much in the way of reliably consistent information on the historical New Flyer installed engine models and types which are no longer commercially available. But New Flyer is open to

researching and providing information that is available to our customers and new owners of such older vehicles.

Please let me know if the attached information is sufficient for your needs. I will endeavor to ensure updates are sent to your department in the future when modifications occur to the Active/Inactive status of the New Flyer VIN methodology.

If you have additional questions or concerns, please let me know.

Please note: I will be visiting with WMATA and Ric Willard of the ODI later this week, but my schedule ion this trip will be pretty tight.
I may not be available to meet in person on this trip, but would schedule it for the future, if you think it would be of value.

***Kerry Legg***
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